

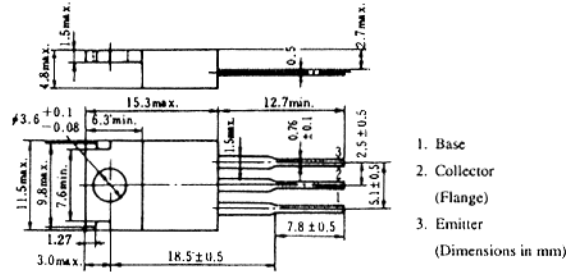
2SD1138

SILICON NPN TRIPLE DIFFUSED

LOW FREQUENCY HIGH VOLTAGE POWER AMPLIFIER

TV VERTICAL DEFLECTION OUTPUT

COMPLEMENTARY PAIR WITH 2SB861



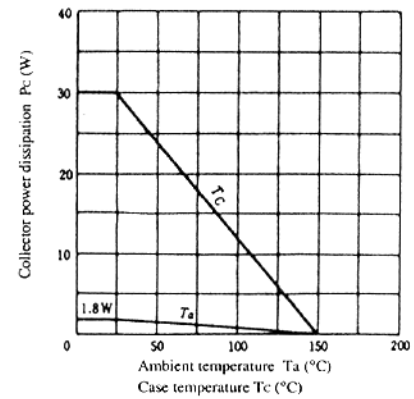
(JEDEC TO-220 AB)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD1138	Unit
Collector to base voltage	VCBO	200	V
Collector to emitter voltage	VCEO	150	V
Emitter to base voltage	VEBO	6	V
Collector current	IC	2	A
Collector peak current	iC(peak)	5	A
Collector power dissipation	PC	1.8	W
	PC*	30	W
Junction temperature	Tj	150	°C
Storage temperature	Tsig	-45 to +150	°C

* Value at Tc = 25°C.

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to emitter breakdown voltage	V(BR)CEO	IC = 50mA, RBE = ∞	150	—	—	V
Emitter to base breakdown voltage	V(BR)EBO	IE = 5mA, IC = 0	6	—	—	V
Collector cutoff current	ICEO	VCB = 120V, IE = 0	—	—	1	μA
DC current transfer ratio	hFE1*	VCE = 4V, IC = 50mA	60	—	320	
	hFE2	VCE = 10V, IC = 500mA**	60	—	—	
Collector to emitter saturation voltage	VCE(sat)	IC = 500mA, IB = 50mA**	—	—	3.0	V
Base to emitter voltage	VBE	VCB = 4V, IC = 50mA	—	—	1.0	V
Collector output capacitance	Cob	VCB = 100V, IE = 0, f = 1MHz	—	20	—	pF

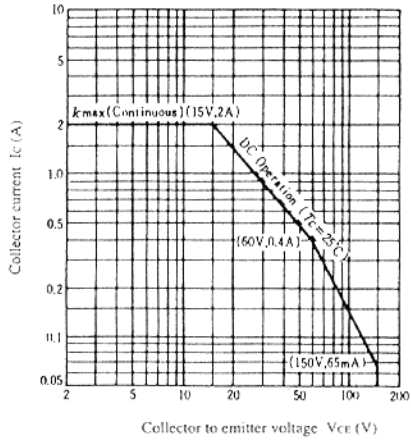
* The 2SD1138 is grouped by hFE1 as follows.

** Pulse Test.

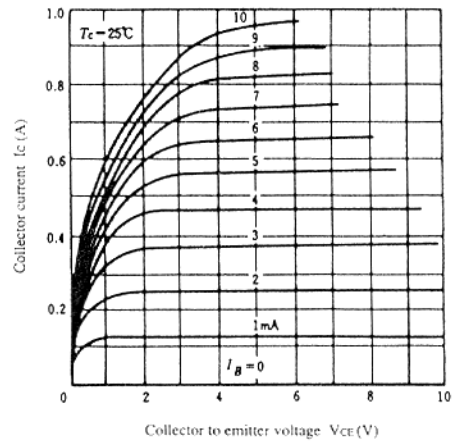
B	C	D
60 to 120	100 to 200	160 to 320

2SD1138

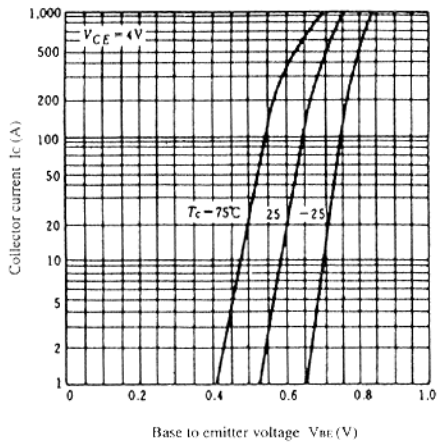
AREA OF SAFE OPERATION



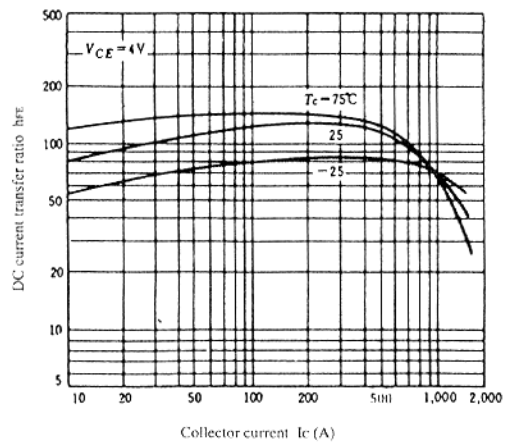
TYPICAL OUTPUT CHARACTERISTICS



TYPICAL TRANSFER CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT

